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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,954	12/15/2000	Benjamin F. Cravatt	SCRIP1210-2	1708

7590 07/28/2005

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EXAMINER
TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/738,954	CRAVATT ET AL.	
	Examiner	Art Unit	
	MY-CHAU T. TRAN	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17,32-40,42-46 and 53-74* is/are pending in the application.

4a) Of the above claim(s) *54* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17,32-40,42-46,53 and 55-74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 November 2003 and 15 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Application and Claims Status

1. Applicant's amendment and response filed 04/13/2005 is acknowledged and entered. Claims 17, 32-38, and 44 have been amended. Claims 55-74 have been added.

2. Claims 1-16, 18-31, 41, and 47-52 were cancelled; Claims 17, 32, 34-38, 42-44, and 46 were amended; and Claims 53-54 were added by the amendment filed on 08/10/2004.

3. Claims 17, 32, 35-38, 42-44, and 46 were amended by the amendment filed on 03/15/2004.

4. Claims 42, and 44-46 were amended by the amendment filed on 03/24/2003.

5. Claims 11-26 were amended by the amendment filed on 04/30/2002. And new claims 27-47, which were renumbered to be Claims 32-52 in accordance with 37 CFR 1.126, were added by the amendment filed on 04/30/2002.

6. Claims 17, 32-40, 42-46, and 53-74 are pending.

Election/Restrictions

7. Claim 54 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was

made **without** traverse since applicant has received an action on the merits for the originally presented invention; this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 54 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

8. Claims 17, 32-40, 42-46, 53, and 55-74 are treated on the merit in this Office Action.

Priority

9. This application claims benefit to three provisional applications under 35 U.S.C 119(e), which are 60/195,954 filed 4/10/2000, 60/212,891 filed 6/20/2000, and 60/222,532 filed 8/2/2000. This instant application is granted the benefit of priority for all three provisional applications.

Withdrawn Objection and Indication of Allowable Subject Matter

10. The objection of claims 33-35, and 37 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims are withdrawn in view of the amendment of claims 33-35, and 37 wherein these claims are now dependent on claim 53.

11. The indicated allowability of claims 33-35, and 37, which were rewritten in independent form as new claims 69-74, and claim 53 are withdrawn in view of the newly discovered references to Dower et al. (US Patent 5,639,603), and Wagner et al. (US Patent 6,329,209 B1). Rejections based on the newly cited reference(s) follow.

12. This Office Action is a Non-Final Office Action and the examiner apologizes for any inconvenience.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 17, and 55-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation of "*differentiating the mixtures on the basis of activity*" of claim 17 is vague and indefinite because there is no correlation between this limitation and the presently claimed method steps. The presently claimed method steps comprise: '*(a) combining each of said mixtures with at least one activity-based probe, wherein: (a1) each mixture includes a group of related proteins, the group comprising active target members; (a2) said probe(s) includes a functionality allowing conjugation of said probe to said target members, whereby said probe(s) is conjugated to said target member, under conditions for conjugation of said probe(s) to said target members to form an adduct; and (b) determining the presence of said adduct in each of said mixtures; whereby the presence of said adduct in said mixtures is indicative of the presence of active target members in said mixtures, wherein said related proteins include a common functionality for conjugation at an active site.*' The presently claimed method steps would result in detecting in each protein mixture (i.e. the claimed step of '*determining the presence of said adduct in each of said mixtures*') a target-probe complex (i.e. the claimed

'adduct'), which does not correlates with the limitation of "*differentiating the mixtures on the basis of activity*". Thus, claim 17 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 17, 55, and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Purohit et al. (*Biochemistry*, **1995**, 34(36), pgs. 11508-11514).

Purohit et al. disclose a method for screening a library of estrones (probe) for potential inhibition of sulfatase enzymes (i.e. estrone sulfatase and dehydroepiandrosterone sulfatase) in placental microsomes and intact MC1Q7 breast cancer cells (Abstract; pg. 11508, figure 1, compounds 4-6; pg. 11509, left col., lines 34-39) (refers to claim 17 and claim 59). The method comprises combining members of the library with a complex mixture (e.g., the placental microsomes and intact MCF-7 breast cancer cells that contain estrone sulfatase and dehydroepiandrosterone sulfatase) wherein conjugates are formed between the library members

and the sulfatase proteins (refers to claim 17, step (a)), and isolating said conjugates from the active and inactive complex mixture (refers to claim 17, step (b) –(c) and claim 55) (pg. 11509, left col., line 49 to right col., line 63; page l 1513, figure 8). Additionally, Purohit et al. discloses using comparing both 'active' and 'inactive' complex mixture (Abstract, lines 11-13; pg. 11509, left col., line 49 to right col., line 63; pg. 11512, fig. 6) and is able to differentiate the complex mixture on the basis of activity (pg. 11510, right col., lines 9-44). Therefore, the method of Purohit et al. anticipates the presently claimed method.

17. Claims 17, 55, 57-59, 69, and 71-73 are rejected under 35 U.S.C. 102(b) as being anticipated by Dower et al. (US Patent 5,639,603).

Dower et al. disclose the library of tagged compounds and several methods of screening and synthesizing the library of tagged compounds (see e.g. Abstract; col. 1, lines 13-21; col. 3, line 66 thru col. 4, line 18; col. 4, line 59-65; col. 10, line 63 to col. 11, line 16). The library of tagged compounds anticipated the presently claimed probe, with the formula of R*(F-L)-X. In general structure of tagged compounds comprises a solid support, linkers (refers to instant claimed 'L' of the formula), identifier tags (refers to instant claimed 'F' of the formula), R is H with regard to the type of identifier tags, and compounds of interest (refers to instant claimed 'X' of the formula) (see e.g. col. 3, line 66 thru col. 4, line 18; col. 6, line 49 thru col. 7, line 2; col. 7, line 19 thru col. 8, line 13; col. 12, line 54 thru col. 13, line 35). The identifier tags include oligonucleotides, fluorophores, and antigen (see e.g. col. 6, line 49 thru col. 7, line 2; col. 16, lines 15-24; col. 39, line 51 thru col. 40, line 8). The compounds include peptides, natural products, and oligonucleotides (see e.g. col. 13, lines 51-67; col. 37, lines 44-60; col. 39, lines 4-

20). In general, the screening method comprises the step of 1) contacting the receptor with the tag compounds of the library to form a bound member wherein the receptor bind to the tag compound; and 2) identifying the bound member by examination of the tag associated with the compound (see e.g. col. 31, lines 28-40; col. 31, line 50 to col. 32, line 3; col. 32, lines 32-57; col. 40, line 30 thru col. 42, line 7). The identifying step includes separating the unbound tag compound from the bound tag compound in order to identify and isolate the bound tag compound showing high fluorescence (see e.g. col. 31, lines 50-63; col. 32, lines 41-57). Thus, the library of tagged compounds and methods of screening of Dower et al. anticipated the presently claimed method.

18. Claims 17, 32, 33, 35, 36, 38, 53, 55, 56, 58, 59, 61, 69, 72, and 73 are rejected under 35 U.S.C. 102(a) as being anticipated by Gygi et al. (*Nature Biotechnology*, **10/1999**, 17(10), pgs. 994-999).

Gygi et al. disclose two methods for quantitative analysis of complex protein mixtures using isotope-coded affinity tags (ICAT)(see e.g. Abstract; pg. 994, right col., lines 6-9; pg. 996, left col., lines 10-29; pg. 997, left col., lines 27-38). In one method, the steps comprises: 1) The side chains of cysteinyl residues in a reduced protein sample representing one cell state are derivatized with the isotopically light form of the ICAT reagent, and the equivalent groups in a sample representing a second cell state are derivatized with the isotopically heavy reagent (refers to the instant claimed combining step; claims 32, 36, 55, and 59); 2) the two samples are combined and enzymatically cleaved to generate peptide fragments; 3) the tagged peptides are isolated by avidin affinity chromatography (refers to the instant claimed determining step); and

4) the isolated peptides are separated and analyzed by LC-MS/MS (electrospray ionization (ESI) MS/MS, in conjunction with microcapillary liquid chromatography (LC)) (refers to claims 33, 35, 56, and 58)(pg. 994, right col., 12-24; figure 2). The structure of ICAT anticipated the presently claimed probe, with the formula of R*(F-L)-X. The structure of ICAT comprises biotin (refers to instant claimed 'F' of the formula), linker (refers to instant claimed 'L' of the formula), thiol-specific reactive group (refers to instant claimed 'X' of the formula), and R is H (see e.g. pg. 995 fig. 1). Thus, the method of Gygi et al. anticipated the presently claimed method.

19. Claims 17, 32-35, 38, 53, 55-58, 61, and 69-72 are rejected under 35 U.S.C. 102(e) as being anticipated by Wagner et al. (US Patent 6,329,209 B1).

Wagner et al. disclose arrays of protein capture agents and the methods of both making and using the arrays of protein capture agents (see e.g. Abstract; col. 2, line 58 to col. 4, line 16; col. 9, line 58 thru col. 10, line 22). In general, the arrays of protein capture agents comprise of a solid support, a monolayer, an affinity tag, an adaptor, and protein capture agent (see e.g. col. 17, lines 1-5; col. 19, lines 8-67; col. 20, line 57 thru col. 21, line 45; col., line 48-54; col. 23, line 38 thru col. 24, line 17; fig. 6 and 7). The monolayer comprises the formula of X-R-Y, wherein Y is a functional group such as a methyl group and forms either a covalent or noncovalent linkage with the affinity tag (refers to instant claimed 'R' of the formula R*(F-L)-X)(see e.g. col. 19, lines 8-25; col. 20, line 59 thru col. 21, line 18). The affinity tag includes compound such as polypeptide and an amino acid (refers to instant claimed 'F' of the formula R*(F-L)-X)(see e.g. col. 9, lines 3-29; col. 21, lines 25-62). The adaptor links the affinity tag with the protein capture

agent and includes protein such as maltose-binding protein (refers to instant claimed 'L' of the formula R*(F-L)-X)(see e.g. col. 9, lines 30-39; col. 23, line 39 thru col. 24, line 11). The protein capture agent includes biomolecule such as polypeptide or antibodies (refers to instant claimed 'X' of the formula R*(F-L)-X)(see e.g. col. 4, lines 48-67; col. 24, lines 19-26). In one method of use, the array is use for proteomics wherein the array comprises a plurality of different protein capture agents with different specificity can binds to a plurality of proteins from a cell or a population of cells in an organism (see e.g. col. 35, line 13 thru col. 36, line 65). The method steps of assaying the plurality of proteins from a cell or a population of cells in an organism comprises a) reacting the plurality of proteins with the protein capture agents under conditions for protein binding (refers to the instant claimed combining step; claims 32, and 55); b) removing unbound protein by washing; c) detecting the presence or amount of bound protein; and c) characterizing the bound protein through traditional means such as mass spectrometry (refers to claims 33, and 56)(see e.g. col. 35, line 25 thru col. 36, line 50). The detection method includes optical detection such as fluorescence and chemiluminescence (refers to claims 35 and 58)(see col. 33, lines 49 thru col. 34, line 9). Thus, the method of Wagner et al. anticipated the presently claimed method.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 17, 32, 33, 35, 36, 38, 39, 53, 55, 56, 58, 59, 61, 62, 69, 72, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gygi et al. (*Nature Biotechnology*, **10/1999**, 17(10), pgs. 994-999) and Bogyo et al. (*PNAS*, **1997**, 94(13), pgs. 6629-6634).

Gygi et al. disclose two methods for quantitative analysis of complex protein mixtures using isotope-coded affinity tags (ICAT)(see e.g. Abstract; pg. 994, right col., lines 6-9; pg. 996, left col., lines 10-29; pg. 997, left col., lines 27-38). In one method, the steps comprises: 1) The side chains of cysteinyl residues in a reduced protein sample representing one cell state are derivatized with the isotopically light form of the ICAT reagent, and the equivalent groups in a sample representing a second cell state are derivatized with the isotopically heavy reagent (refers to the instant claimed combining step; claims 32, 36, 55, and 59); 2) the two samples are combined and enzymatically cleaved to generate peptide fragments; 3) the tagged peptides are isolated by avidin affinity chromatography (refers to the instant claimed determining step); and 4) the isolated peptides are separated and analyzed by LC-MS/MS (electrospray ionization (ESI) MS/MS, in conjunction with microcapillary liquid chromatography (LC)) (refers to claims 33,

35, 56, and 58)(pg. 994, right col., 12-24; figure 2). The structure of ICAT anticipated the presently claimed probe, with the formula of R*(F-L)-X. The structure of ICAT comprises biotin (refers to instant claimed 'F' of the formula), linker (refers to instant claimed 'L' of the formula), thiol-specific reactive group (refers to instant claimed 'X' of the formula), and R is H (see e.g. pg. 995 fig. 1).

The method of Gygi et al. differs from the presently claimed invention by failing to include the probe that contain the claimed structure of R*(F-L)-X, wherein F is a sulphonyl group and R is other than H and bonded to F.

Bogyo et al. disclose an "active site" probe and the method of using the probe for studying the function of the proteasome (see Abstract; pg. 6629, right col., lines 21-39; pg. 6634, left col., lines 1-51). The probe comprises radiolabeled peptide vinyl sulfones (see e.g. pg. 6630, left col., lines 26-63; pg. 6630, fig. 1). The radiolabeled peptide vinyl sulfones is use in both *in vitro* and *in vivo* as selective reagents for marking members of the proteasome family of proteases (see e.g. pg. 6631, left col., line 1 thru right col., line 27; pg. 6634, left col., lines 8-33).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the probe that contain the claimed structure of R*(F-L)-X, wherein F is a sulphonyl group and R is other than H and bonded to F as taught by Bogyo et al. in the method of Gygi et al. One of ordinary skill in the art would have been motivated to include the probe that contain the claimed structure of R*(F-L)-X, wherein F is a sulphonyl group and R is other than H and bonded to F in the method of Gygi et al. for the advantage of providing an "active site" probe that can permeate cells and covalently modify proteasome β subunits (Bogyo: pg. 6634, lines 4-7) since both Gygi et al. and Bogyo et al. disclose the method

of detecting proteins from crude cell samples (Gygi: pg. 994, right col., lines 6-9; Bogyo: pg. 6631, right col., lines 17-27). Furthermore, one of ordinary skill in the art would have reasonably expectation of success in the combination of Gygi et al. and Bogyo et al. because Bogyo et al. disclose the success of using radiolabeled peptide vinyl sulfones as selective reagents for marking members of the proteasome family of proteases (Bogyo: pg. 6631, figs 2 and 3).

23. Claims 17, 32-35, 37, 38, 53, 55-58, 60, 61, 69-72, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. (US Patent 6,329,209 B1) and Frenz et al. (*J. Chromat.*, **1989**, 480, pgs. 379-391).

Wagner et al. disclose arrays of protein capture agents and the methods of both making and using the arrays of protein capture agents (see e.g. Abstract; col. 2, line 58 to col. 4, line 16; col. 9, line 58 thru col. 10, line 22). In general, the arrays of protein capture agents comprise of a solid support, a monolayer, an affinity tag, an adaptor, and protein capture agent (see e.g. col. 17, lines 1-5; col. 19, lines 8-67; col. 20, line 57 thru col. 21, line 45; col., line 48-54; col. 23, line 38 thru col. 24, line 17; fig. 6 and 7). The monolayer comprises the formula of X-R-Y, wherein Y is a functional group such as a methyl group and forms either a covalent or noncovalent linkage with the affinity tag (refers to instant claimed 'R' of the formula R*(F-L)-X)(see e.g. col. 19, lines 8-25; col. 20, line 59 thru col. 21, line 18). The affinity tag includes compound such as polypeptide and an amino acid (refers to instant claimed 'F' of the formula R*(F-L)-X)(see e.g. col. 9, lines 3-29; col. 21, lines 25-62). The adaptor links the affinity tag with the protein capture agent and includes protein such as maltose-binding protein (refers to instant claimed 'L' of the

formula R*(F-L)-X)(see e.g. col. 9, lines 30-39; col. 23, line 39 thru col. 24, line 11). The protein capture agent includes biomolecule such as polypeptide or antibodies (refers to instant claimed 'X' of the formula R*(F-L)-X)(see e.g. col. 4, lines 48-67; col. 24, lines 19-26). In one method of use, the array is use for proteomics wherein the array comprises a plurality of different protein capture agents with different specificity can binds to a plurality of proteins from a cell or a population of cells in an organism (see e.g. col. 35, line 13 thru col. 36, line 65). The method steps of assaying the plurality of proteins from a cell or a population of cells in an organism comprises a) reacting the plurality of proteins with the protein capture agents under conditions for protein binding (refers to the instant claimed combining step; claims 32, and 55); b) removing unbound protein by washing; c) detecting the presence or amount of bound protein; and c) characterizing the bound protein through traditional means such as mass spectrometry (refers to claims 33, and 56)(see e.g. col. 35, line 25 thru col. 36, line 50). The detection method includes optical detection such as fluorescence and chemiluminescence (refers to claims 35 and 58)(see col. 33, lines 49 thru col. 34, line 9).

The method of Wagner et al. differs from the presently claimed invention by failing to include the step of analyzing for the presence of the protein conjugates with the probes using capillary electrophoresis.

Frenz et al. disclose the method of characterizing proteins using capillary electrophoresis (see e.g. Abstract; pg. 379, line 1 thru pg. 380, line 20).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the step of analyzing for the presence of the protein conjugates with the probes using capillary electrophoresis as taught by Frenz et al. in the method of Wagner

et al. One of ordinary skill in the art would have been motivated to include the step of analyzing for the presence of the protein conjugates with the probes using capillary electrophoresis in the method of Wagner et al. for the advantage of providing the control and quantification of the high-performance liquid chromatography and the separating power of electrophoresis (Frenz: pg. 380, lines 6-12). Additionally, Wagner et al. disclose that the characterization step can be performed by traditional means, and thus the means for performing the characterization of protein would be a choice of experimental design and is considered within the purview of the cited prior art. Furthermore, one of ordinary skill in the art would have reasonably expectation of success in the combination of Wagner et al. and Frenz et al. because Frenz et al. disclose the success of characterizing protein by capillary electrophoresis (Frenz: pgs. 382-390).

Double Patenting

24. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

25. Claims 17, 38, 39, 44-46, 53, 61, 62, 66-68 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 12, 14, 18, 21, 22, and 24 of copending Application No. 09/836,145. Although the conflicting claims

are not identical, they are not patentably distinct from each other because the recited claims in each application encompass the same method of screening for the probe-analyte complex in a protein mixture using the probe with the formula of R*(F-L)-X, wherein X is a biotin ligand, L is an alkylene or an alkyleneoxy chain linking group, F is a sulfonyl functional group, and R is selected from a group consisting of alkyl, pyridyl, substituted pyridyl, imidazole, pyrrole, and thiophene. Thus both methods are obvious over each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

26. Applicant's argument directed to the rejection under 35 USC 102(b) as being anticipated by Purohit et al. (*Biochemistry*, **1995**, 34(36), pgs. 11508-11514) for claims 17, 55, and 59 (newly added claims, which are the same as claims 32 and 36 that are now amended to depend on claim 53) was considered but they are not persuasive for the following reasons.

Purohit et al. disclose a method for screening a library of estrones (probe) for potential inhibition of sulfatase enzymes (i.e. estrone sulfatase and dehydroepiandrosterone sulfatase) in placental microsomes and intact MC1Q7 breast cancer cells (Abstract; pg. 11508, figure 1, compounds 4-6; pg. 11509, left col., lines 34-39) (refers to claim 17 and claim 36). The method comprises combining members of the library with a complex mixture (e.g., the placental microsomes and intact MCF-7 breast cancer cells that contain estrone sulfatase and dehydroepiandrosterone sulfatase) wherein conjugates are formed between the library members and the sulfatase proteins (refers to claim 17, step (a)), and isolating said conjugates from the active and inactive complex mixture (refers to claim 17, step (b) –(c) and claim 32) (pg. 11509, left col., line 49 to right col., line 63; page l 1513, figure 8). Therefore, the method of Purohit et al. anticipates the presently claimed method.

Applicant contends that the method of Purohit et al. does not anticipate the presently claimed method because the method of Purohit et al. does not teach or suggest 1) the presently claimed limitation of "*differentiating the mixtures on the basis of activity*" and 2) isolating the

protein-inhibitor complex. Therefore, the method of Purohit et al. does not anticipate the presently claimed method.

Applicant's arguments are not convincing since the method of Purohit et al. does anticipate the presently claimed method. First, the method of Purohit et al. does suggest the presently claimed limitation of "*differentiating the mixtures on the basis of activity*". Purohit et al. discloses using comparing both 'active' and 'inactive' complex mixture (Abstract, lines 11-13; pg. 11509, left col., line 49 to right col., line 63; pg. 11512, fig. 6) and is able to differentiate the complex mixture on the basis of activity (pg. 11510, right col., lines 9-44). Thus, Purohit et al. does suggest the presently claimed limitation of "*differentiating the mixtures on the basis of activity*". Second, the method of Purohit et al. does suggest isolating the protein-inhibitor complex (pg. 11510, left col., lines 1-8). Thus, the method of Purohit et al. does anticipate the presently claimed method, and the rejection is maintained.

27. Claims 40, 42, 43, 63-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 571-272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mct
July 21, 2005

PADMASHRI PONNALURI
PRIMARY EXAMINER